

***FlyBy Math™* Alignment**
Nebraska Mathematics Standards – Dec. 2000

8.2 COMPUTATION/ESTIMATION

Standard	<i>FlyBy Math™</i> Activities
<p>8.2.3 By the end of eighth grade, students will solve problems involving whole numbers, integers, and rational numbers (fractions, decimals, ratios, proportions, and percents) with and without the use of technology.</p> <p>Example indicators:</p> <ul style="list-style-type: none"> • Use proportions to solve scale-model problems with fractions and decimals. • Problems should be of increasing level of difficulty and involve real-life situations. 	<p>--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.</p>
<p>8.2.5 By the end of eighth grade, students will apply strategies of estimation when solving problems with and without the use of technology.</p> <p>Example indicators:</p> <ul style="list-style-type: none"> • Properly round to an appropriate place value if context permits. • Perform estimation prior to calculation. • Without a calculator, estimate square roots of whole numbers up to one hundred to the nearest whole number. • Use compatible numbers to perform mental math. • Use estimation to check reasonableness of an answer. 	<p>--Predict outcomes and explain results of mathematical models and experiments.</p>

8.3 MEASUREMENT

Standard	<i>FlyBy Math™</i> Activities
<p>8.3.1 By the end of eighth grade, students will select measurement tools and measure quantities for temperature, time, money, distance, angles, area, perimeter, volume, capacity, and weight/mass in standard and metric units at the designated level of precision.</p>	<p>--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.</p>

8.4 GEOMETRY/SPATIAL CONCEPTS

Standard	<i>FlyBy Math™</i> Activities
<p>8.4.6 By the end of eighth grade, students will use geometric terms and representations to describe the</p>	<p>--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to</p>

physical world.	<p>describe the motion of two airplanes.</p> <p>--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.</p>
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8.5 DATA ANALYSIS, PROBABILITY, AND STATISTICAL CONCEPTS

Standard	<i>FlyBy Math™</i> Activities
<p>8.5.1 By the end of eighth grade, students will collect, construct, and interpret data displays and compute mean, median, and mode.</p> <p>Example indicator:</p> <ul style="list-style-type: none"> • Select appropriate representations of data when constructing data displays (graphs, tables, or charts). 	<p>--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs.</p> <p>--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.</p>
<p>8.5.2 By the end of eighth grade, students will read and interpret tables, charts, and graphs to make comparisons and predictions.</p>	<p>--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.</p> <p>--Use graphs to compare airspace scenarios for both the same and different starting conditions and the same and different constant (fixed) rates.</p>

8.6 ALGEBRAIC CONCEPTS

Standard	<i>FlyBy Math™</i> Activities
<p>8.6.1 By the end of eighth grade, students will demonstrate knowledge and use of the one- and two-dimensional coordinate systems.</p> <p>Example indicators:</p> <ul style="list-style-type: none"> • Order numbers on a number line. • Graph ordered pairs on a coordinate plane. • Generate a table of ordered pairs to graph an equation in two variables. 	<p>--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.</p>
<p>8.6.3 By the end of eighth grade, students will describe and represent relations, using tables, graphs, and rules.</p> <p>Example indicator:</p> <ul style="list-style-type: none"> • Use variables to recognize and describe patterns. 	<p>--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.</p> <p>--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.</p>